MediaTek Exhibit 1B

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Product Lines

» Wireless Handset

» Digital Consumer DVD

» Digital TVs

» PC Optical Storage Drives

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Digital TVs

Ultimate Multimedia Entertainment Experience
MediaTeks' MT5392 DTV SoC features a superior decoding engine, which supports a wide range media formats, providing the flexibility you desire. Experience the best digital media journey with MediaTek's highly integrated DTV SoC.

Leads the way : High performance MJC/MEMC 120Hz Technology
MediaTek Halo-reduced MJC/MEMC Technology features its new generation MJC/MEMC engine :Halo-reduced 120Hz Full-HD MJC, which eliminates motion blur and film jitter, delivering a more fluid, and near real-life experience.

DTV	DTV Demod	ATV	
» MT5382	» MT5112	» MT8222	
» MT5362	» MT5133	» MT8223	
» MT5388			
» MT5363			
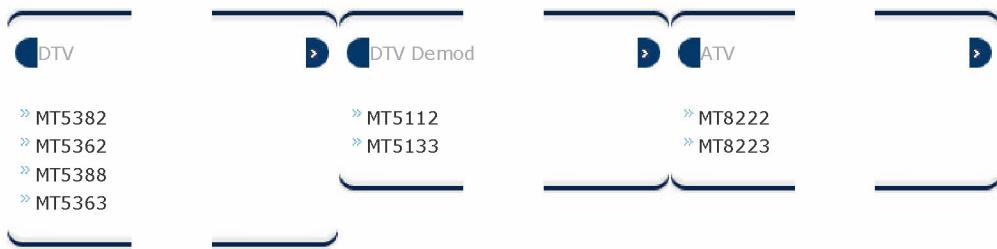
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MediaTek Wireless Communication Solutions
More Fun, Fewer Chips

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Get the Best of Both Worlds: Cost & Performance!

MediaTek is the world's first end-to-end mobile platform that provides you with complete solutions no matter what your mobile challenge. We simultaneously provide hardware platforms, reference designs, software features and professional support to customers. We offer the perfect combination of excellence in cost and performance. What's more, we're efficient, so you're guaranteed of on-time delivery to market.

Discover the Power of the MediaTek Multimedia Mobile Phone Platform!
Welcome to richer Mobile living. MediaTek is the leader in combining Modem with Multimedia Functions. Music, Camera, Video, …you want it, we have it. Now you can offer mobile subscribers a totally new experience and whole new world of services. Come on. Join in. Discover MediaTek's Multimedia Mobile Phone Platform today – we've got the Power!

Experience MediaTek Low Power Technology for Mobile Phone Platforms!
To make life far more convenient, and much kinder to the environment, MediaTek leads the way in low power Mobile solutions. Enjoy these MediaTek advantages. Longer standby time. Extend listening time for music. Watch richer videos. Use power mobile applications without draining power. And realize a breakthrough to enable dual standby capability within a single handset.

Big is beautiful: Pleasing Image Quality; Easy-to-Use Design

MediaTek-based VIZIO GV42L is rated 4.5 stars by HDTV Solutions. Check out the Best Digital Media Journey MediaTek leads you...

Best of the best LCD HDTVs and plasma TVs
MediaTek-based VIZIO P42HDTV, L37HDTV, L32HDTV are ranked at the top of their respective test comparisons in PC World Magazine. For more information, please visit PC World.

DTV Product Family

Unleash the Richest Digital Media Experience

MediaTek MT8520 : Blu-ray ™ Player SoC

Mediatek's HD AV experience: You don't just see it, you LIVE it!
Say goodbye to standard definition video. The MT8520 powered Blu-ray ™ Player provides full 1080p resolution for perfect viewing enjoyment. In addition, the MT8520 powered Blu-ray ™ Player is equipped with up to 7.1 channels of HD surround sound. Out of this world.

Play Any Disc, Any Time.
The MT8520 supports playback for almost every optical disc, including Blu-ray disc, DVD, VCD, and CD-DA. Born from MediaTek's proven technologies, it offers the world's best and most reliable playability of DVD SoC – MT1389 series. Discover more

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home > products > MT5112

The MediaTek MT5112 is a highly integrated single-chip, front-end solution for digital terrestrial and digital cable TV demodulation. The MT5112 is fully compliant with ATSC A/53, SCTE DVS-031, and ITU J.83 Annex B standards.

FEATURES

- Compliant with ATSC and J.83B digital television standards
- Meet all ATSC/A74 requirements and Brazil ensembles
- EIA/CEA-909 antenna interface, both mode A and mode B are supported
- Support sleep mode to reduce power consumption
- 100-TQFP package

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MediaTek MT5133 is highly integrated single-chip COFDM (Coded Orthogonal Frequency Division Multiplex) channel demodulator and forward error corrector(FEC) for DVB-T receiver. It is fully compliant with the DVB-T specification (ETSI 300744) and Unified Nordig.

FEATURES

- Compliant with ETSI 300 744 DVB-T, Unified Nordig and DTG performance specifications
- Suitable for Single Frequency Network (SFN) operation
- MPEG-2 transport stream output in parallel or serial format
- Low power consumption
- 64-LQFP package

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The MediaTek MT5362 is a highly integrated SOC family combining DTV backend decoder and TV controller for EU market. The MT5362 supports transport de-multiplexer, H.264 video decoder, AC3 audio decoder, TV decoder and LVDS transmitter. The MT5362 enables consumer electronics manufacturers to build high quality, feature-rich DTVs.

FEATURES

- Transport stream demultiplexer
- Support one H.264 HD video decoder
- Support MPEG1/2/4, and JPEG decoder multi-media
- 3D comb filter recovering high details for still picture
- Embeded MDDi(TM) de-interlacer generating very smooth picture quality for motion
- High quality audio decorder
- Support Picture-in-Picture, Picture-out-Picture mode
- HDMI receiver

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The MediaTek MT5363 is a highly integrated SoC family combining DTV backend decoder and a TV controller for advanced applications. It combines a transport de-multiplexer, a high definition video decoder, an AC3 audio decoder, a dual-link LVDS transmitter, and an NTSC/PAL /SECAM TV decoder with a 3D comb filter (NTSC/PAL). The MT5363 enables consumer electronics manufactures to build high quality, low cost and feature-rich iDTVs.

FEATURES

- Embedded DVB-T demodulator
- A transport demultiplexer
- A multi-standard video decoder
- An AC3/MPEG2 audio decoder
- HDMI1.3 receiver
- Audio codec

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The MediaTek MT5382 is a highly integrated SOC family combining DTV backend decoder and TV controller for US market. The MT5382 supports transport de-multiplexer, MPEG-2 video decoder, AC3 audio decoder, TV decoder and LVDS transmitter. The MT5382 enables consumer electronics manufacturers to build high quality, feature-rich DTVs.

FEATURES

- Transport stream demultiplexer
- Support one MPEG-2 HD and JPEG decode base-line JPEG file
- 3D comb filter recovering high details for still picture
- Embeded MDDi(TM) de-interlacer generating very smooth picture quality for motion
- High quality audio decorder
- Support Picture-in-Picture, Picture-out-Picture mode
- HDMI receiver

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The MediaTek MT5388 is a highly integrated SoC family combining DTV backend decoder and a TV controller for advanced applications. It combines a transport de-multiplexer, a high definition video decoder, an AC3 audio decoder, a dual-link LVDS transmitter, and an NTSC/PAL /SECAM TV decoder with a 3D comb filter (NTSC/PAL). The MT5388 enables consumer electronics manufactures to build high quality, low cost and feature-rich DTV.

FEATURES

- Embedded ATSC demodulator
- Worldwide multi-standard analog TV demodulator
- A transport demultiplexer
- A MPEG2 video decoder
- An AC3/MPEG2 audio decoder
- HDMI1.3 receiver
- High quality audio codec

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http://www.mediatek.com/en/product/info.php?sn=56

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The MediaTek MT8222 is a highly integrated IC with a cost-effective and high performance HDTV-ready solution for the flat panel TV manufacturers. It supports flat panel TV video/audio input and output formats and HDTV as well.

FEATURES

● 3D comb filter of the TV decoder retrieving the best video from composite signals and embedded HDTV/VGA decoders perfectly reproducing the high bandwidth input signals.
● Motion-adaptive deinterlacer converts interlace to progressive video.
● Advanced full function color processing.
● Two independent flexible scalers can simultaneously process two different video sources and provide the wide adoption for various flat panels.
● On-chip audio processor with a lip sync control decodes analog signals received from the tuner, delivering high-quality post-processed sound effect.

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The MediaTek MT8223 is the worldwide 1st ultra highly integrated ATV SoC in 128 pin with 3D picture quality and it supports multimedia video/audio input and output format up to full HDTV. The MT8223 is an ultra low-cost HDTV-ready solution to LCD TV manufactures.

FEATURES

- Advanced 3D comb filter TV decoder to retrieve the best image from popular composite signals
- Embedded HDTV/VGA decoders for the high bandwidth input signals perfectly reproducing.
- The new generation advanced motion adaptive and motion estimation de-interlacer
- The flexible scaler provide wide adoption to various LCD panels for video source.
- On-chip audio processor decodes analog signals from tuner with lip sync control, delivering high quality post-processed sound effect to customers.
- On-chip microprocessor reduces the system BOM and shortens the schedule of UI design by high level C program.

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Service Manual
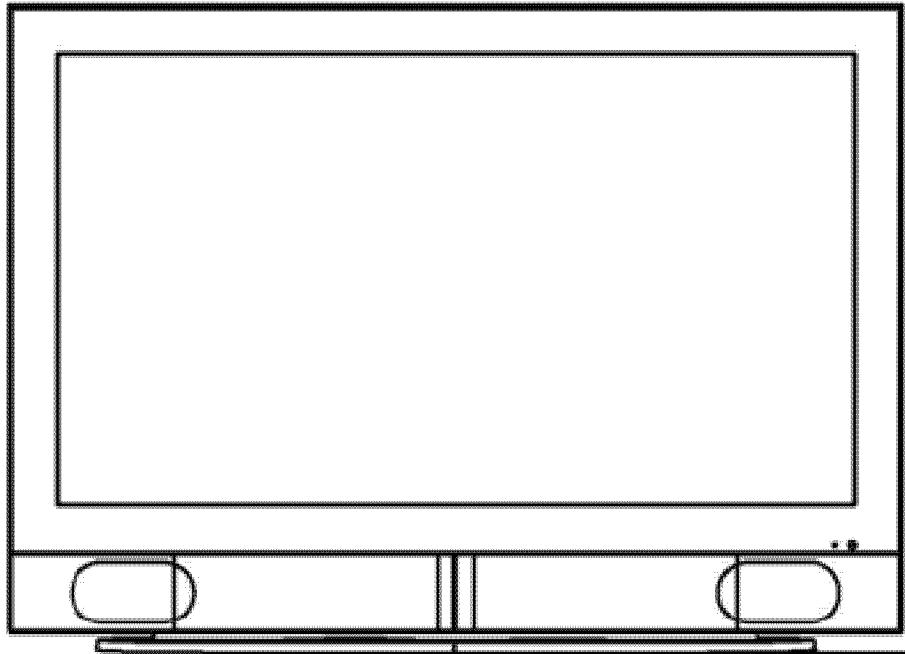
Model #: VIZIO L42HDTV10A

VIZIO GV42L HDTV

V, Inc

320A Kalmus Drive Costa Mesa, CA 92626

TEL : +714-668-0588   FAX :+714-668-9099

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FCC INFORMATION
This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures -- reorient or relocate the receiving antenna; increase the separation between equipment and receiver; or connect the into an outlet on a circuit different from that to which the receiver is connected.

FCC WARNING
To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to Amtrak products will void the user's authority to operate this device. Thus VINC Will not be held responsible for the product and its safety.

CE CERTIFICATION
This device complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility."

SAFETY CAUTION
Use a power cable that is properly grounded. Always use the AC cords as follows – USA (UL); Canada (CSA); Germany (VDE); Switzerland (SEV); Britain (BASEC/BS); Japan (Electric Appliance Control Act); or an AC cord that meets the local safety standards.

Chapter 7   Theory of Circuit Operation

The operation of D-SUB 15pin route

The D-SUB 15pin is input analog signal to the MTK8202 transfer A/D converter then generates the vertical and horizontal timing signals for display device.

The operation of HDMII CON route

The HDMI 1&2 CON is input digital signal to the PI3HDMI412FT switch output signal is process to the MT8293. Then transfer to the MTK8202, the MTK8202 generates the vertical and horizontal timing signals for display device.

The operation of HDTV & Component route

HDTV & Component signal is input to the MTK8202 then MTK8202 generates the vertical and horizontal timing signals for display device.

The operation of Video 1,2,3 & S-Video route

The Video 1,2 and S-Video signal is transmission signal to the MTK8202 then MTK8202 generates the vertical and horizontal timing signals for display device.

The operation of TV route

TV signal is processes to the tuner and output to MTK8202 then MTK8202 generates the vertical and horizontal timing signals for display device. Audio is processes to the tuner output to SIF circuit and output to MTK8202.Then MTK8202 process to wm8776 and output to TDA8946J transfer to speaker

The operation of DTV route

DTV signal is processes to the tuner and transmission to MT5112 and output signal to MT5351 then MT5351 output to MT8202 generates the vertical and horizontal timing signals for display device.

The operation of keypad

There are 7 keys to control and select the function of L42 and also has one LED to indicate the status of operation. They are "Power, ▼▲, + -, Input, OSD".

MT8202 Application

MT8202 is a highly integrated video and audio single chip processor for emerging HDTV-Ready LCD TV. It includes one 3D/2D TV Decoder recovering the best image from CVBS, and in addition, its analog input also support popular S-Video, Component, VGA video source. On-chip advanced motion adaptive de-interlacer (MDDitm) converts accordingly the interlace video into smooth non-flicking progressive motion pictures. With on-chip advanced 2D Graphic processor,MT8202 provides customers with high quality UI adding significant end product value. Flexible scalar provides wide adoption to various LCD panel for different video sources. Its on-chip audio processor decodes whole world standard audio signals from tuner with lip sync control, delivering high quality post-processed sound effect to customers. On-chip microprocessor and reference FW reduces the system BOM and shortens the schedule of UI design by high-level C program. With truly SOC design, MT8202 offers our customers the real cost-effective high performance HDTV-ready solution.

BOLOCK DIAGRAM
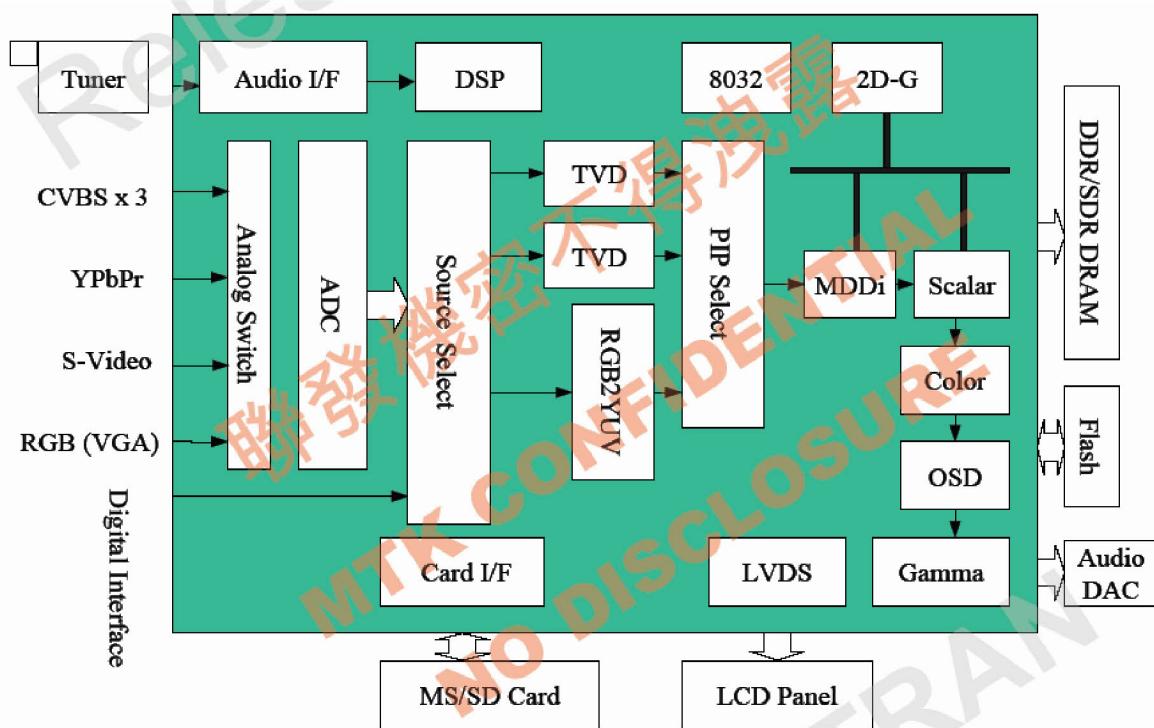
6.Seamless performance comparing demonstration function

Support Left/Right video processing comparing function without additional resources (DRAM…) for customers' demonstration

All the video functions (De-interlace/3D comb/NR/Flesh tone/CTI) can be included

7. DRAM Usage

1.For features of 8202, Dual for enhance features support, and single 8x16 DDR for simple function support Lists are the comparison chart between function support lists of (2xDDR) and (1xDDR)

	DDR*1(16MB)	DDR*2(32MB)
NR	Y	Y
3D-Comb	Y	Y
MDDi	*480i/576i	1080i
PIP	*Y	Y
POP	*Y	Y
Display	1024x768	1366x768 1280x1024 1440x900

2.For single DDR, 8202 only support 1080i bob mode de-interlacing. (Non-3D de interlace)

3.With single DDR, it is suggested not to support PIP/POP features. Due to DDR Bandwidth limitation on PIP/POP when single DDR.

8.DDR SDRAM (V58C2128164SBI5) Application

Block Diagram